JPRS 73883

23 July 1979

China Report

AGRICULTURE

No. 48

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50272-101

REPORT DOCUMENTATION PAGE	1. REPORT NO. JPRS 73883	2.	3. Recipient's Accession No
4. Title and Subtitle CHINA REPORT: AGRICULTURE, No. 48			5. Report Date 23 July 1979 6.
7. Author(s)			8. Performing Organization Rept. No
9. Performing Organization Name and Address Joint Publications Research Service 1000 North Glebe Road Arlington, Virginia 22201			10. Project/Task/Work Unit No 11. Contract(C) or Grant(G) No (C) (G)
12. Sponsoring Organization Name and Address As above			13. Type of Report & Period Covered 14.

15. Supplementary Notes

16. Abstract (Limit: 200 words)

This serial report contains information on agricultural activities in China.

17. Document Analysis a. Descriptors

CHINA
Agriculture
Weather
Statistics
Crops
Animal Husbandry
Forestry
Soil
Pisciculture

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group 2

18. Availability Statement	19. Security Class (This Report)	21. No. of Pages
Unlimited Availability Sold by NTIS Springfield, Virginia 22161	UNCLASSIFIED	78
	20. Security Class (This Page) UNCLASSIFIED	22. Price

(See ANSI-Z39.18)

OPTIONAL FORM 272 (4-77)
(Formerly NTIS-35)
Department of Commerce

JPRS 73883

23 July 1979

CHINA REPORT

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I. GENERAL INFORMATION

STUDIES ON MALE STERILITY IN RICE

Beijing YICHUAN YU YUZHONG [GENETICS AND BREEDING] in Chinese No 2, Mar 76 pp 10-11

[Article by Wang Peitian [3769 1014 3944] of the Genetics Research Institute of the Chinese Academy of Sciences: "New Flowering in Paddy Rice Breeding: Studies on Male Sterility in Rice and Its Applications"]

[Text] Rice is the foremost high-yield crop in our country, its cultivation occupying more than one-fourth of the total land area planted to grain and yielding almost one-half of the total amount of grain produced. If production of rice per unit of area could be increased by 20 or 30 percent, it would be possible to increase national production by several tens of billion jin of grain to play an important role in quickening the pace of the socialist revolution and socialist construction.

Several years ago, scientists and technicians from our country together with workers, peasants and soldiers conducted some arduous and painstaking experiments to select and breed a large number of male sterile rice plants possessing special characteristics for cross-breeding with a few score superior hybrid combinations. Tests shows the first filial generation of the hybrid to possess obvious superior increased yield traits. Presently test planting and extension of use of these hybrids are underway in the provinces, municipalities, and regions of the southern part of our country.

If one wants to know the history of the male sterile rice breed, one must begin with a weed from Hainan Island.

1. From "Wild Degenerate" to "Wild Degenerate Type" Sterile Line

During the winter of 1970, a stalk of wild rice was discovered in a ditch at the Nanhong farm in Ya County on Hainan Island. It was as long as wild rice plants usually are, but its anther was thin and small, and when mature the anther did not split open. The pollen was crinkled and lacked starch. It could not be iodine-stained with a solution of potassium iodide and in-breeding brought no fructification. Later observations revealed that this stalk of wild rice with degreaded pollen was the progency of a natural cross of wild rice and cultivated rice. We termed it "wild degenerate."

During the same winter, the Hunan Provincial Rice Hybrid Superior Strains Utilization Cooperative Organization, the Pingxiang Municipal Agricultural Science Institute of Jiangxi Province, and the Male Sterile Research Unit of the Agricultural Reclamation Head Office in Xinjiang Province conducted separate crosses using this "wild degenerate" as the female parent and several cultivated varieties of rice as the male parent. This was followed by continuous back-crossing and crossbreeding to produce the celebrated "wild degenerate" type male sterile line rice.

Let us explain in the chart on the following page the process of selecting and breeding the "wild degenerate" type sterile line using as an example the 29 South Number 1 selected and bred by the Hunan Provincial Rice Hybrid Superior Strains Utilization Cooperative organization.

It can be seen from this chart that 29 South No. 1 was selected as the male parent for crossing with the wild degenerage and then continuously backcrossed 3 or 4 times. After each backcrossing, completely sterile plants with traits identical with the 29 South No. 1 were selected. Once these traits had stabilized and no further divergence occured, a new 29 South No. 1 sterile line was selected and bred. In the crop fertilization process, it is crucially important that the cell nucleus of the male parent join in the fertilization, and that both the cell nucleus and the cytoplasm in the female parent both participate in the fertilization. When that is done, the cell nucleus of the first generation of the hybrid will be half from the male parent and half from the female parent. Following an increase in the number of backcrossings, the proportion of nucleus from the male parent in the progeny will become greater and greater until it takes over entirely. This method is called the nucleus displacement method. It using this method to select and breed 29 South No. 1 sterile line, the cell nucleus came from 29 South No. 1, but the cytoplasm was from the wild degenerage. In the pollen formation process, sterile pollen was produced because of incompatability between cytoplasms. This characteristic provided us with extreme convenience in producing first filial generation hybrid seeds.

Sterile progeny incapable of reproduction through inbreeding could form seeds if pollinated with another strain. If planted, these seeds would maintain a sterile line and other traits. The 29 South No. 1 male parent breed used in Hunan to select and breed the 29 Hunan Noo. 1 sterile line was called 29 South No. 1 sterile-free line.

In recent years quite a few units have crossed breeds grown in their own areas with 29 South No. 1 sterile line or with a sterile line from the wild degenerate type to produce 70 new sterile lines such as Zhenzhu Short No. 11 sterile line, Guanglu Short No. 4 sterile line, Maijin sterile line, and Liming sterile line.

	Female Parent		Male Parent	Date of Cross
	Wild degenerate	x	6044 (Indica rice)	1971. 3
Plants of fertile strain with tendencies toward male parent and completely sterile selected from among 18 plants	F_1 x	29	South No. 1 (Indica rice)	1971. 12
1 plant of completely sterile line with traits resembling male parent selected from among 4 plants	F_1 x	29	South No. 1	1972. 6
3 plants of completely sterile line with traits resembling male parent selected from among 12 plants	B_1F_1x	29	South No. 1	1972. 10
65 plants of 3 progeny lines and completely sterile of which 1 resembled male parent	B_2F_1x	29	South No. 1	1973. 2
6177 plants of 20 progeny lines of which 99% are sterile plants of which 12 resembled male parent	B_3F_1x	29	South No. 1 (sterile free line)	1973. 6
3000 sterile plants of 10 progeny lines with traits indistinguishable from male parent.	B_4F_1	(29	South No. 1 male sterile line)	1973. 9

NOTE: B, F, B_2F, indicates one backcross first filial generation and two backcrosses first filial generation.

The sterile line has a female parent for breeding but a male parent is required. This male parent must have rather strong fertility restoration capabilities and propagation vigor so that the first filial generation result from hybridization will not only have fruiting vigor restored but possess a high rate of fruiting vigor, great dominance, and high productivity. Breeds such as this that possess very good fertility restoration capabilities are called restorer lines. The Hunan Provincial Rice Hybrid Superior Strains Utilization Cooperative Unit made test crossings of more than 700 breeds of Indica rice as the male parent with wild degenerage sterile lines. Of these, 85 percent were able to maintain the original sterility of the test-crossed hybrids, 12 percent were able to pass on normal fertility restoration to hybrids, and the remaining 3 percent made a rather low fertility restorer line in the hubrids. Results of test crossings were similar at the Pingxiang Municipal Agriculture Science Institute in Jiangxi Province and at the Guangdong Provincial Rice Hybrids Superior Breeds Utilization Cooperative Unit. The Male Sterile Research Unit of the Agricultural Reclamation Head Office in Xinjiang Province used more than 1400 breeds of japonica rice as the male parent for test crossings with sterile lines of the wild degenerate type. Of these, only three breeds were able to maintain relatively normal fertility restoration in hybrids. The overwhelming majority of japonic rice breeds were unable to restore fertility in hybrids.

2. Other Male Sterile Lines

Ever since 1970, some areas in the southern part of our country have been conducting massive scientific experiments in the selection and breeding of male sterile lines of paddy rice. Within a few short years, more than 20 varieties of new male sterile lines with different cell cytoplasms have been selected and bred. At present, in addition to the wild degenerage, the cytoplasm of other wild rices common in many parts of our country (Oryza sativa L. Pontanea) have been combined with the nuclei of cultivated varieties to breed various male sterile lines with wild rice type cytoplasms, e. g. hongye type sterile line, yaye type sterile line, tengye type sterile line, huaye type sterile line and heye type sterile line.

Our nation's scientists and technicians have also used all sorts of indica rice cytoplasm from different sources to breed sterile lines possessing the cytoplasm of indica rice, e.g. Yunnan Type 1, Yunnan Type 3, and Bao Type sterile lines, as well as Jin Type and Shen Type sterile lines, Rao type sterile line, Te type sterile line, and Sheng type sterile line. Additionally, the Yunnan Provincial Cooperative Unit has used japonica rice cytoplasms of diverse origins to breed Yunnan Type 2, Yunnan Type 4, and Yunnan Type 5 sterile lines. The sichuan Agricultural Institute has used the cytoplasm of smooth bodies rice (Oryza glaberrima) from Gambia in West Africa to breed a Gang type sterile line.

Research is also underway abroad in the use of three breeds of rice. It is understood that a Japanese named Shinjo has bred a B type sterile line and that Shinjo and Watanabe have bred an L type sterile free line. Aswar [phonetic] of the International Rice Institute in the Philippine Islands has preliminarily selected and bred Tai type 1, and Philippine type 1 and type 2 sterile lines (reaching the B_2F_1 generation in 1972). An American named Erickson test bred Bc type sterile lines (reaching the B_2F_1 generation in 1972. The American, Erickson, and an Indian named Suvamingnadan [phonetic], working with West African smooth body rice, also separately bred G type and Sa type sterile lines (reaching the B_2F_1 and the F_2 generations in 1972).

Inasmuch as the above named male sterile varieties of rice possess cytoplasms from different sources, their male sterility also manifests differences, including small size pollen in some and large size pollen in others. In some the anthers are translucent while the color of others is rather dark or normal. In some the anthers do not split at maturity while others do. In some the pollen is crinkled, while in others it is plump. When stained with iodine from a potassium iodide solution, some stain deeply, some lightly, and some will not stain. Their common characteristics are that they are cytoplasm and nucleus hybrids that have been produced by hybrids in which the nuclei have been displaced, all have a stable sterile-free line, and in some an effective restorer line has been found.

3. Use of Rice Hybrid Superior Strains

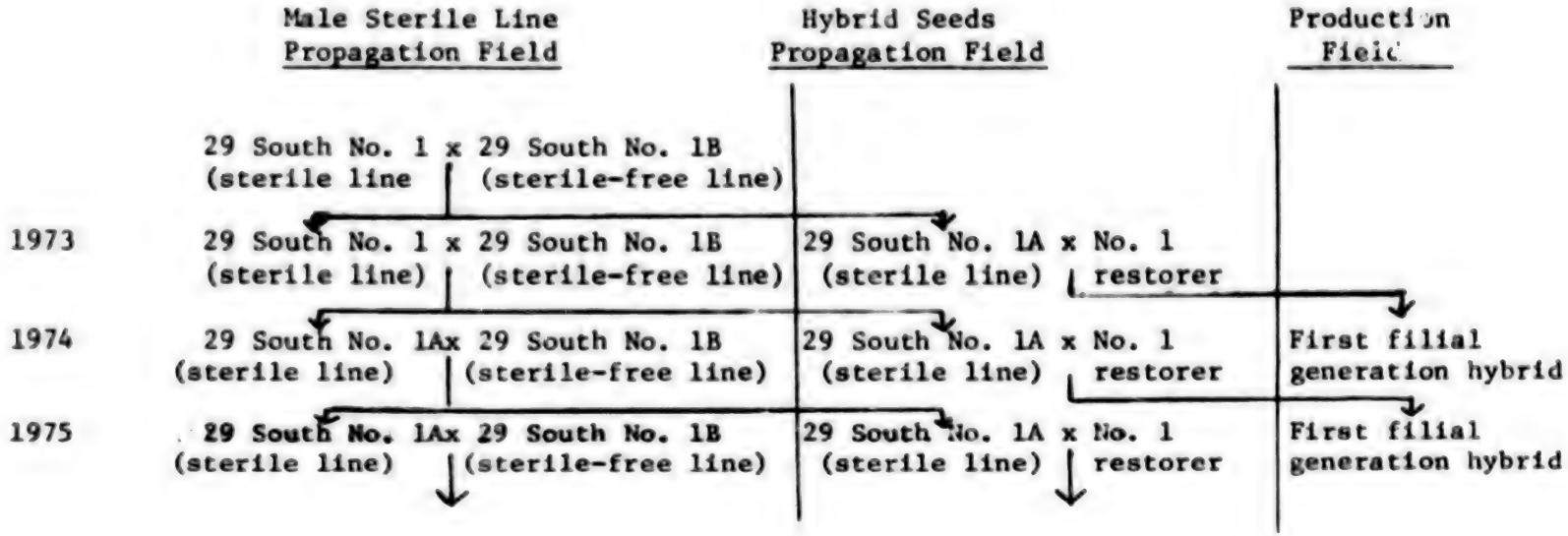
The sterile line, the sterile-free line, and the restorer line are together termed the three lines. The method of breeding and seed propagation is the same as for gaoliang as shown in the chart below. To use the male sterile strain to produce hybrid seeds, two separate fields are required. Of the sterile line seeds propagated each year in the sterile line propagation field, a minority will continue to grow in the propagation field during the second year. Most of those planted in the hybrid seed propagation field will form hybrid seeds.

The hybrid seeds formed are planted the following year in a field. This is to say that each year it is necessary to propagate a sterile line and hybrid seeds in order to be able to provide the steady stream of hybrid seeds that the fields require. The wild degraded type male sterile line began trial use in production in 1975. Given the usual sypply of fertilizer and water, hybrid rice grown in large areas yielded more than 1000 jin per mu and the extent of increased yields for double-crop late rice was even greater.

In 1975 a national symposium was convened on cooperation in scientific research on hybrid rice in which the exchange and summarization of experiences further encouraged the will to fight. An appraisal of production over a large area demonstrated that hubrid rice possesses superior qualities

lacking in ordinary varieties. Hybrid rice was shown to possess strong tillering strength, developed root systems, vigor, robust stems, large heads with numerous grains (on average each head yielded about 150 grains with maximum yields of 200 or 300), and high weight per thousand grains (an average 27 grams). These superior characteristics in hybrid rice brought about a reduction in seeds required (each mu in a large field requiring about 2 jin), a reduction in labor (10,000 or 20,000 holes poked per mu with 1 to 3 shoots in each hole), high yields, a high rate of rice in husks (78-82 percent), and fine quality. These qualities earned the enthusiastic welcome of cadres and the broad masses. Hunan poor and lower-middle peasants praised them in a rhyme saying: "Hybrid rice superiority is good with large heads, many grains, and high production. Resistance to insects and disease is also superb. Savings in work and in seeds are truly fine."

How was out country able to make such accomplishments within the short space of a few years? The basic reason is that our country's scientists and technicians and its broad masses of poor and lower-middle peasants, under the guidance of the revolutionary line of Chairman Mao, displayed the revolutionary spirit of "self-reliance and arduous struggle" to smash scientific mystery, and turned over to the masses for action research on male sterile lines in rice, started a mass scientific experimentation movement to create sterile lines in our rice producing regions, and sought out restorer lines with everyone coordinating and cooperating to do battle, their minds fixed on one spot and their energies applied to one spot. At the same time, they put to full use our country's surpassing natural conditions of southern strains and northern breeds with three generations a year to bring about a very great acceleration in the speed of advance in this work and to gain inspiring accomplishments.


Male Sterile Line Propagation Field
Hybrid Seeds Propagation Field
Production Field
29 South No. 1 x 29 South No. 1B
(sterile line) (sterile-free line)
1973
29 South No. 1 x 29 South No. 1B
(sterile line) (sterile-free line)
29 South No. 1A x No. 1
(sterile line) restorer
1974
29 South No. 1Ax 29 South No. 1B
(sterile line) (sterile-free line)
29 South No. 1A x No. 1
(sterile line) restorer
First filial generation hybrid
1975
29 South No. 1Ax 29 South No. 1B
(sterile line) (sterile-free line)
29 South No. 1A x No. 1
(sterile line) restorer
First filial generation hybrid

SELECTION BREEDING OF THREE STRAINS OF YUNNAN TYPE HYBRID RICE

Beijing YICHUAN YU YUZHONG [GENETICS AND BREEDING] in Chinese No 6, Nov 76 pp 18-19

[Article by Yunnan Provincial Cooperative Organization for Superior Hybrid Rice: "New Developments in the Selection and Breeding of the Three Lines of Yunnan Type Hybrid Rice"]

[Text] In accordance with Chairman Mao's guiding principle of "maintain independence and keep the initiative in one's own hands, and practice self-reliance," we have firmly planted our feet in production here and now to combine common breeds and to develop great cooperation with scores of brother units throughout the country and the province to achieve great developments in three lines of rice research work.

I. Three Lines in Yunnan Type 1 Hybrid Rice

(a) Sterile Line and Sterile-free Line

The Yunnan Type 1 sterile line is a hybrid of a non-glutinous long grain and a non-glutinous short grain sterile plant selected from the fields in 1965. This was then crossed with a red tassel variety from the area and repeatedly backcrossed for a total of 13 generations. The red tassel is a peasant family favorit breed with a sterility rate in backcrossing of each generation maintained at above 95 percent. As a result of the influence of this red tassel variety, the sterile line of the Yunnan Type 1 has partial anthers that regularly split open to disperse pollen with resultant inbreeding and a fruiting rate of several percent. A similar phenomenon appears when the Yunnan high altitude short-grain non-glutinous Banjiemang variety is used as a sterile-free line.

In 1970 we began using Taizhong 31 and Keqing Number 3 low altitude short-grain non-glutinous varieties to conduct further crossbreeding of sterile lines. Backcrossing of the Keqing Number 3 line produced anthers in each generation that split open. The rate of inbreeding with fruiting was rather high with individual plants amounting to 20 percent. When Taizhong 31 was used to crossbreed a sterile line, the rate of inbreeding and fruiting of the very first two generations that had been backcrossed showed

some fluctuations. After three generations of backcrossing, however, the anthers no long split open and the sterile line stabilized at better than 99 percent. In 1974 our inspection of 60 spikes inbred in bags showed the average fruiting rate to be 0.013 percent. Use in recent years of some breeds from our own Northeast and from Japan to crossbreed sterile lines show a sterile rate maintained at more than 99 percent after one or two generations of backcrossing. From this situation we feel that the cell nuclei of these breeds lacks a weak regenerative gene, making them an ideal sterile-free line.

Red tassel and Banjiemang are high altitude breeds that can make it possible to broaden the area cropped with hybrid rice of one kind or another in our province from a few score of meters above sea level to 2,700 meters above sea level.

We have crossbred short-grain breeds widely used in low elevation areas, and now the Yunnan Type 1 red tassel sterile line has been crossbred to make Taizhong 31, Banjiemang, 373, Keqing Number 3, and Mudanjiang Number 4, all of which are sterile lines.

Yunnan Type 1 sterile line is extremely easy to crossbreed. The light sensitivity of the red tassel sterile strain is very good, but when crossbreed with Heilongjiang carieties, the offspring form heads as usual under conditions of long light but short growing season such as obtained in Heilongjiang Province. When the red tassel was backcrossed for more than three generations, its light sensitivity was the same as that of the sterile line. When it was further crossbred with low altitude high yield breeds with low light sensitivity, the sensitivity to light of the first filial generation was similar to the sensitivity to light of the crossbred varieties. In a growing season with periods of long light like that of the male parent breed.

When red tassel is planted in the place to which it is native, namely Xiangyun in Yunnan Province, it will grow to aheight of 140 centimeters in a regular growing season. But when planted in the late season in Yuanjiang, plants shortened to 119 centimeters as a result of high temperature, shorter periods of sunshine, and a truncated vegetative growth period. Likewise, the change in height became very great in the first silial generation when red tassel was crossbred with breeds of shorter stalk length with heights resembling that of the male parent breed. The tallest was 36 centimeters taller than the red tassel sterile line, and the shortest was 54 centimeters shorter than the red tassel sterile line.

When Yunnan Type 1 red tassel sterile line was backcrossed for many generations, not only was sensitivity to light and plant height easily changed like the crossbred male parent, but the hereditary characteristic of purple tipped husks differed from other breeds as well. When we hybridized purple-tipped husk varieties with white-tipped husk varieties, the husk tips in the first filial generation were all purple. In a total of as many as 100 combinations, whether positive or negative, there were no exceptions. But when the hybrid Yunnan Type 1 red spike sterile line with a

purple-tipped husk was hybridized with the Nanjing Great White Rice, which has a pale yellow tipped husk, or with the yellow Silk Glutinous, the first filial generation exhibited pale yellow tips on the husks.

The above research shows that the hereditary plasticity of the Yunnan Type 1 is very great with advantages for crossbreeding and for speed propagation. This is its very great strong point.

(b) Restorer Lines

We have test crossed every possible domestic and foreign short-grain rice with the Yunnan Type 1 sterile line without finding a breed of very good restorative strength, but rather good results have been obtained by using the methods described below to breed a restorer line.

1. Select plants for beeeding from among the progency of natural hybrids of sterile lines and then, after inbreeding each generation, conduct a sifting out of test crosses. After four or five generations, select a restorer line of high fertility and other economically stable characteristics such as Restorer 3 (plant progency selected from among 698 materials). They are able to restore a fruiting rate of more than 80 percent to a sterile line.

2. From test crossings and backcrossings of hubrids, select and breed plants of high fruiting, and inbreed them. From their progency, select a restroer line. When Zhaotongbeizi rice was test crossed with Yunnan Type 1 sterile line, plants of high fruiting were obtained from the first filial generation of backcrossing. Each generation was then inbred and selection of test crossings made. In this way progency plants with a fruiting rate of more than 80 percent were bred. At present, economic characteristics of this line are not all they should be, but they will probably be stabilized within a generation or two.

3. In a search for a restorer line from the progency of crosses of long-grained and short-grained rice, we used non-glutinous short and long-grained regular breeds as well as short and long-grained hybrids in test crossings with the Yunnan Type 1 sterile line. From Taizhong 31 and the sixth filial generation of Red Rice Hubrid, we bred a progency plant with strong restorer strength. The superiority of the hybrids was very apparent. Additionally, a cross of IR 8 with Keqing Number 3 hubrid of long and short-grained varieties produced progency with short-grain traits that had definite restorative powers for fertility in the Yunnan Type 1 sterile line.

4. A Yunnan high altitude non-glutinous long-grained rice was test crossed with some non-glutinous long-grained Indian rice with screening out. Yunnan Type 1 sterile line was crossbred from a Yunnan high altitude long-grained rice and a low altitude short-grained hybrid. It possesses the cytoplasm of the high altitude long-grain, so when used in test crossing with the

Yunnan high altitude long grain, a definite fertility restoring capacity occured. In the first filial generation, the fruiting rate was restored to 80 percent, the hubrid vigor was strong, and it possessed many of the strong points of hybrids of long and short grain varieties. But the sterile lines were of the short-grain type while the restorer lines were of the long grain type, and since they flowered at different times, seed propagation was difficult. They could not be directly used. We used combined hubrid breeds that had shown high fruiting in test crossings to conduct test crossings and selecting out. From these were selected those at the peak of bloom each day as well as the long-grained type restorer line matching the short-grained type sterile line.

5. The first filial generation of the test crossong of the restorer line was used as the male parent for test crossing with the sterile line. Plants with good restorative strength were selected from test crossings of the resultant generation for use as a restorer line.

(c) A comparison of the Three Lines of Yunnan Type 1 and the Three Lines of the Japanese BT Type?

1. The sterile line and the sterile-free line. The Taizhong 31 sterile line BT-C look very much alike in the configuration of the plants and the shape of the leaves. The anthers of the BT-C are rather thin and the coloring of the pollen grains is rather light. Using the BT sterile line's sterile-free Taizhong 65 for test crossing with the Yunnan Tupe 1 Taizhong 31 sterile line, the inbreeding fruiting rate of the first filial generation was below 0.1 percent. Like the BT-C, the anthers did not split open and the color of the pollen was light. The Taizhong 31 and the Taizhong 65 are ver much like sister lines.

2. Restorer lines. Test crossing of the BT-R with the Banjiemang sterile line of the Yunnan Type 1, with the Taizhong 31 sterile line, and with the Keqing Number 3 sterile line produced a first filial generation in which splitting of anthers and fruiting were normal, and in which examination of pollen under the microscope showed more than 7 percent slightly colored. Fruiting rate was above 80 percent.

II. The Three Lines of the Yunnan Type 3

The Yunnan Type 3 sterile line paddy rice was produced from a cross of a female parent, which was a high altitude long-grained E Mountain Great White Rice that is rather typical of Yunnan, with Keqing Number 3 short-grained rice. Then it was crossbred with a red tassel back cross.

(a) The Crossbreeding of the Yunnan Type 3 Sterile Line

After three generations of backcrossing of the Yunnan Type 3 Sterile line with the Red Tassel, light sensitivity, heading period, plant height, plant shape, color of glume, length of awn, and lustre were identical with the Red Tassel. For better utilization in future production, we used Chujin, 725,

and Guizhi in crossbreeding, with the first filial generation all maintaining sterility and all characteristics identical with the first generation crossbreeds of these breeds and the Red Tassel sterile line of Yunnan Type 1. The Yunnan Type 3 sterile line is also a sterile line of great plasticity.

(b) Restorer Materials

Simultaneous with the crossbreeding of the Yunnan Type 3 sterile line, we carried out separation on semi-sterile plants and selected restorer lines from among them. We felt these methods superior in two way to the method of continuous backcrossing:

1) Yunnan Type 3 derived originally from the crossbreeding of three parent hybrids with a rather strong rice hereditary foundation from among which could be separated out plant progency with rather large mutual divergences. This provided rich material for the formation of very superior hybrids.

2) Speed was greater than with continuous backcrossing. After three generations of inbreeding, we were already able to select progency with fairly good restorative power, and in test crossing of sterile lines the fruiting rate was more than 80 percent.

Additionally, in test crossing of restorer lines of BT types with the Chujin sterile line of the Yunnay Type 3, the fruiting rate of the first filial generation also topped 80 percent.

During the past few years we have selectively bred superior Yunnan type hybrid combinants. Numerous experiments inside and outside the province have shown that most rice hubrids possess a strong tillering ability with large heads, many grains, and high productivity. For example, in test plantings during 1975 at elevations of 1,400 meters of Jianshui and at about 1,100 meters at Mengsheng, both in Yunnay Province, per mu production on a small area exceeded 1,500 jin of fine quality hubrid. Of these, 24 of the 29 groups of hybrids test planted in Mengsheng represented 83 percent of the 30 percent increase in production over the Keqing Number 3. Four hybrids accounted for 13.8 percent of those with increased production of 100 percent or better. The area planted to middle-season rice in our province is very large with most plantings concentrated in an area where elevations range from 1,600 to 1,900 meters. In 1975, when we test planted Yunnan Type hubrid rice in these areas, high yields from small areas amounted to 30 percent more than the production from varieties widely used in the area with per mu yields ranging from 1,200 to 1,500 jin.

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CSO: 8111/1231

RATIONAL, BALANCED DEVELOPMENT OF COMMUNE INDUSTRY URGED

Beijing JINGJI GUANLI [ECONOMIC MANAGEMENT] in Chinese No 3, 1979 pp 21-23

[Article by Wang Gengjin [3769 5087 0093] and Zhu Rongji [2612 6954 1015]: "Where Is Commune- and Brigade-Run Industry Going?"]

[Text] Recently we went to the Shanghai suburbs and to Suzhou, Wuxi, and Changzhou to carry out an investigation of commune- and brigade-run industry. For the past several years, the commune- and brigade-run industry in these areas has developed quickly, with the average annual value of production increasing by 20 to 30 percent, thereby having a manifest affect on the face of the rural economy. First of all, it has changed the economic structure of the rural people's communes, strengthening the collective economy of the two levels of commune and brigade. The value of output of the commune- and brigade-run industries in these areas already represents from 50 to 60 percent of the gross value of industrial and agricultural output of the three levels of commune, production brigade, and production team. Secondly, it has assisted basic construction in the fields, promoting agricultural mechanization. These areas have already fundamentally accomplished mechanization in ploughing, irrigation, threshing, and grain processing. The majority of agricultural machinery was purchased with capital contributed by commune- and brigade-run industry, with the smaller portion manufactured in the commune and brigade agricultural machinery factories. Thirdly, it has increased agricultural income. Using the method of turning over a percentage of the wages and profits to the brigades, commune- and brigade-run industry has distributed subsidies to commune members. The income of commune members has accordingly been maintained at a comparatively high level.

At the same time the development of commune- and brigade-run

industry has strengthened the ranks of the both-worker-and-peasant commune members, moving agricultural villages toward linking up industry and agriculture and toward reduction of the three great differences.

Experience proves that positive development of commune- and brigade-run industry is completely correct. When RENMIN RIBAO did a series of reports and commentaries taking as a basis the experience of Wuxi County in developing commune- and brigade-run industry, various areas paid close attention. Nevertheless, there were different opinions regarding how to assess the Wuxi experience. Some comrades held that "Wuxi's commune- and brigade-run industry is not representative of the nation as a whole."

We maintain that the fundamental experience of Wuxi County in developing commune- and brigade-run industry is still appropriate for use by the whole country. This fundamental experience is first of all the spirit of self-reliance and arduous struggle and the resolve to persist in developing the path of integrated development of agriculture, subsidiary products, and industry. On this trip we saw in Shanghai and south Jiangsu nearly 30 factories run by communes and brigades. Many of these factories had written moving histories: the capital was pooled together from several tens of yuan from the commune members; the implements were several hammers; and that which was relied upon was man, exerting himself by every possible means, suffering untold hardships, and growing like a snowball from a few hand-crafted works to industrial enterprises which today have a certain scale and which have achieved a rather good technical level. This truly evokes admiration.

The experience of Wuxi is also good in that it blends their revolutionary spirit with an attitude of seeking truth from facts. They nourished a large broup of cadres having a head for economics and they summed up a method of management which is suited to the development of commune- and brigade-run industry, especially the comparatively good "attitude of service" displayed by the county party committee and the managing departments toward the communes and brigades in which the "work style of the yamen" is comparatively rare. Emphasis is placed on genuine work, not empty talk. They not only do not apply restrictions and fetters, they also do not spoil things by excessive enthusiasm. This situation of vigorous development which has appeared today in the commune- and brigade-run industry of Wuxi County is inseparable from the leadership method of respecting democracy and science.

However, it must also be pointed out that owing to the special conditions and concrete circumstances of Wuxi county, their method does not have universal significance for the entire country.

The commune- and brigade-run industry of the south Jiangsu area centering around several large and medium-size cities such as Shanghai and Wuxi possesses comparatively superior technology, equipment, and conditions for coordinated efforts. At the same time this has caused its development to become divorced from links with agriculture, turning instead to service for large industry and the cities. This is especially true of Wuxi, which originally had the nickname of "little Shanghai." Prior to liberation, mechanics and machine operators in Shanghai and other urban areas were from Wuxi, who had contacts spanning the entire country making it easy for them to acquire order goods and raw materials through various channels. Hence over 70 percent of commune- and brigade-run industry in Wuxi County serves big industry, and over 60 percent is machinery manufacturing and processing industry. The machinery which they manufacture has attained a rather high level and is on sale throughout the country. Even when raw materials or fuels are lacking, they can produce materials in a steady stream through their "cooperative relations." The majority of the 50 thousand metric tons of steel materials which they used in a year came from outside the plan. They do not have any coal mines, but through "cooperative relations" with some coal mines in Shanxi they were able to acquire coal not only for industrial use but even for burning in the countryside. They acquired so much that they even managed to give coal to the Wujin Chemical Fertilizer Plant to "process" fertilizer for Wuxi County.

The kind of conditions possessed by Wuxi County are rarely seen in Jiangsu Province, and are even less representative of the entire country. Others fear that these aspects would be extremely difficult to study, to the extent that these activities utilizing materials to produce more materials and pounding away at the state plan are even less an example to be followed. With rationalization of large-scale industry in urban areas, development of commune- and brigade-run industry in various areas, and strengthening of management of the plan, the scope for activities such as this "soaring to the skies" of Wuxi County's commune- and brigade-run industry is increasingly restricted. Moreover, some factories are presently experiencing a crisis and will not be able to carry out next year's production tasks. Comrades within the county have expressed concern. From this

one can say that the experience of Wuxi County still has not solved well the question of direction of development of commune- and brigade-run industry and has not solved the question of causing commune- and brigade-run industry to develop healthily within the plan. If these problems are not understood, then commune- and brigade-run industry will not have a lasting vitality and might even see a repetition of certain losses which have taken place previously in our history.

At present there is a kind of tendency which excessively emphasizes accumulation capital for commune- and brigade-run industry, or the so-called function of "using industry to nourish agriculture." Recently this kind of formulation has appeared in newspapers and periodicals: "A key to the rapid development of X X X production brigade is not taking the word 'money' as a taboo." We hold that such formulations are not at all appropriate.

First of all, this kind of formulation has not at all assessed correctly but has rather underrated the function and far-reaching significance which commune- and brigade-run industry ought to have. Commune- and brigade-run industry has actually made contributions in providing a portion of capital for the development of agriculture. But its primary significance is not here at all. Comrade Mao Zedong said: "At present the things which a commune has directly are still not many, such as commune-run enterprises, commune-run undertakings, an accumulation fund and public welfare fund distributed by the commune, and so forth. Although this is so, our great and shining hope is here." Obviously, the "hope" spoken of here refers to a raising of the level of transfer to public ownership in the people's communes by collective undertakings run by the commune and brigade, to the creation of conditions for transition in the system of ownership.

Capital is an important question in whether or not agriculture is able to develop rapidly. But under the premise of implementation of a planned economy in our country, having money is not equivalent to having all necessary materials for developing agriculture. In actuality, the commune- and brigade-run industry of Wuxi County also produced a portion of the materials for agricultural use, but the primary thing relied upon was still the "hard currency" produced by its machine industry and brought in through exchange of "cooperative relations" with various areas in the nation. If the 2000 counties throughout the country all used as much steel materials, coal, and cement as Wuxi County, even if

our country's industrial production were trebled, the demand still could not be met. Then with whom should one exchange "cooperative relations"? Here there is still a question of overall balance.

Secondly, a prominent problem at present in the national economy of our country is that raw materials and fuels for industry are not able to meet the development of processing industries. Developing processing industries is comparatively easy, they can be constructed rapidly, and the profits are high. But industry which bases itself on raw materials which are available in the locality consistently requires a large labor force, a high degree of labor intensity, arduous conditions, and extremely low profits. If the objective of "getting money" is arbitrarily emphasized in developing commune- and brigade-run industry, the result can only cause commune- and brigade-run industry to blindly expand the capacity of processing industries and to exacerbate the unevenness among supply, production, and marketing.

In tne course of this investigation we saw many agricultural machine factories which had in actuality been transformed into "industrial machine" factories. Initially they had been set up around the requirements of assisting agriculture and they produced a good many small agricultural implements. But after they had satisfied the demand for these agricultural implements, development of more complicated agricultural implements was comparatively difficult and there was no advantage to be seen. Thereupon they turned to serving big industry, simultaneously arming themselves with the machine tools which they had themselves produced to further expand their machine processing ability. The result was tnat purchasing and marketing personnel filled the skies, going everywhere in "search of rice to put in the pot." In the commune- and brigade-run industry of Jiading County there are a total of 27 agricultural machinery factories having 2300 machine tools. Originally they produced 19 kinds of agricultural machinery commodities, but now 17 kinds have been discontinued and the rate of utilization of industrial capacity has fallen below one-half. In Wuxi County there are 6000 machine tools in the commune- and brigade-run industry, but the utilization rate is only 60 percent. After the national machinery industry is rationalized and reorganized according to the principle of specialized cooperation and gives full play to its productive capacity, the commune- and brigade-run industry's situation of "eating without being full" may become still more serious.

Thirdly, one-sided emplasis on "using profits from industry to subsidize agriculture" might also lead to overlooking and covering up the contradictions within agriculture itself, causing a situation disadvantageous to development of agriculture.

How can regarding of industry as a "money tree" and agriculture as a "losing proposition" be advantageous to the development of agriculture? The thing which is inappropriate about the formulation "use industry to nurture agriculture" is that it judges agriculture as being incapable of accumulation and forced to rely on industry for "nurturing." This is mistaken. At present it is true that the rate of accumulation for agriculture is low. There are many reasons for this. One is the problem of pricing policy. The scissors differential for the prices of industrial and agricultural commodities has at present already adversely affected the initiative of the peasants. The inequitable price exchange created by this scissors differential has in fact moved agricultural accumulation into industrial and commercial profits. The second reason is that there still remains extraeconomic exploitation of the peasants. The party central committee is attaching extremely great importance to the question of the excessively heavy burden shouldered by the peasants and has promptly disseminated the experience of Xiangxiang. If the situation of "asking for help all the time from the production brigade, undermining the foundation of the production brigade everywhere" continues, agriculture will not only not be able to have accumulation, even simple reproduction will be difficult to continue. Yet another question is that of agricultural production itself. For example, beginning in 1970 the Suzhou area and the Shanghai suburbs implemented a triple-cropping system which gave rise to a series of new contradictions such as increased production but reduced income, utilization of land without cultivation of land, paying attention to quantity while ignoring quality, and a cropping system not advantageous to mechanization. If these factors are summed up and considered, the triple-cropping system did not increase grain output as compared with the double-cropping system while the price paid was considerable. The cadres from the county and commune whom we met this time contended with one voice that the triple-cropping system is contrary to the will of the peasants, but that it was a case of "being difficult to dismount from a tiger." Now the contradiction of increased production but reduced income is solved by relying on a subsidy from the profits from commune- and brigade-run industry. The peasants reflect the view that "output of a

metric ton of grain per hectare is not as good as running a small factory." Those who cultivate the land do not love the land and the peasants do not have a high initiative regarding agricultural production; under such circumstances how can agricultural production develop? From this it can be seen that development of agriculture must rely on analysis to solve the contradictions inherent in agriculture itself. Of course it must also rely on industry (primarily modern, large-scale industry's assistance), but it can never use development of commune- and brigade-run industry as a substitute. At present the most important thing is to mobilize the socialist initiative of several hundred million peasants and to implement thoroughly the series of policies set by the third plenum, including reduction of the price difference between industrial and agricultural commodities. Done in this way, there can be not only high speed in development of agriculture but also high accumulation. Seen from the vantage point of the entire country, the development of agricultural production must rely on accumulation from agriculture itself, and must not rely for a long time on the income from industry as a supplement.

The experience and lessons of Wuxi County tell us that development of commune- and brigade-run industry from the beginning must establish clearly the nature of its goals and must set a correct direction for development and a course of action for economic management. We must certainly persevere in suiting measures to local conditions, drawing on local resources, drawing resources from one's own locality, and managing industry for the sake of agriculture and agricultural by-products. We absolutely must not fix our sights merely on "grasping money" or rely on "cooperative relations" here and there for raw materials. We do not at all take the word "money" as a taboo. We also affirm grasping profits with perfect assurance. However, "grasping money" is by no means the "secret" of developing agriculture; grasping money must also have a premise. If one does not set right the direction of development of commune- and brigade-run industry, the result may be that nobody makes any money. Of course, the economic management departments must use price laws and take advantage of prices, tax revenues, credit, and other economic levers to regulate production. However, if ideology is not set right, and policies not unified, then economic measures will not be able to play their role correctly and in a timely fashion.

We feel that commune- and brigade-run industry has a great future for development in the following areas: (1) processing of agricultural and subsidiary local and special commodities.

At present processing of agricultural commodities and raising of domestic fowls and cattle slaughtering are largely concentrated in the cities. With many links in the chain losses of the commodities are high, and there are very few food processing enterprises in the large cities which are not in the red. These businesses can be sent down to be managed by commune- and brigade-run industry. In addition, there is the silk industry of the Suzhou area which prior to liberation was renowned both at home and abroad. At present it still has not regained its historical level of production. With the network of rivers in south Jiangsu, large quantities of willow trees can be planted along the riverbanks. These can be used to make packaging and weaving raw materials and to manufacture handicrafts for export. For example, the Gaolang county Yongfeng brigade has undertaken willow weaving and income per hectare has reached 1900 yuan. Thorough utilization of these local resources, unified planning, and development of agriculture, subsidiary products, industry, commerce, and commerce as an integrated chain will have great vitality. (2) Excavation and processing industries based on mine resources dispersed throughout the local area. For example, the Suznou region has gangue, granite and quartz resources. Owing to the fact that profits are low for the excavation industry and the work is exhausting, while not being as economically profitable as producing machinery and going outside the area to exchange and reckon up, it has not developed well. (3) Maintenance work for agricultural machinery and processing industries for the livelihood of people in the countryside. We also want to point out that commune- and brigade-run agricultural machinery industry may not develop blindly. In order to guarantee quality and reduce the selling price, agricultural machinery and their spare parts must be arranged in a planned and overall way by the state and must assume production based on large orders. The function of repair and spare part stations throughout the three levels of villages is primarily to disperse rationally sales points and repair stations such that the peasants may buy spare parts at their convenience, may have things repaired conveniently; they should not be set up such that too many agricultural machinery repair and spare parts plants are established, causing a great number of machine tools to sit idle during most of the year. (4) In areas near cities, make thorough use of the "three wastes" (i.e. gas, water, and industrial residue) of the cities and other resources so that they may be turned into something precious, converting harm to benefit, and establishing a business which serves the city and large-scale industry. (5) In areas having the proper conditions, under overall planning and arrangement of industrial departments, a portion of commodities or spare parts may be produced by commune- and brigade-run industry. Modernization of our country's

industry must take into consideration the special feature of our country's large population. Together with mechanization and automation of the principal industrial crafts, certain spare parts can be manufactured through the cooperative effort of commune- and brigade-run industry in order to economize on investment capital, reduce operating costs, and to prevent an excessive concentration of industry among the urban population. However, there must also be a calculation of the economic results; expansion for the sake of expansion will not do.

Finally, we must separate the two concepts of commune- and brigade-run enterprises and commune- and brigade-run industry. Commune- and brigade-run enterprise refers not only to industry, but also includes planting and breeding enterprises such as forestry, animal husbandry, fish-breeding ponds, mechanized pig-raising and livestock-raising, seed multiplication farms, and even such other enterprises as transport and transportation and those supporting livelihood of the peasants. The scope for development is enormous, but we cannot merely propagandize commune- and brigade-run industry while overlooking overall, coordinated development of the rural economy.

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UNPROFITABILITY IN COLLECTIVE PIG-RAISING ANALYZED

Beijing JINGJI GUANLI [ECONOMIC MANAGEMENT] in Chinese No 3, 1979 pp 24-26

[Article by Li Ling [2621 0407] and Fu Dong [0102 0392]: "Fully Develop the Potential of Pig Raising by Commune Members, Promote the Development of Pig Raising Tasks"]

[Text] What problems currently exist in pig raising in the countryside of our nation? How is it possible to develop pig raising even more rapidly? In order to research this question, last year we conducted an investigation in Beijing Municipality Tong County. The results of this investigation reveal that deficits in collective pig raising are extremely serious, but that there is still great potential for pig raising by commune members.

Serious Deficits in Collective Pig Raising

In recent years there has been a certain development in the pig raising enterprise of Beijing Municipality Tong County. The number of fattened pigs sold to the state in 1975 was 120,000; in 1976 and 1977 160,000 were sold to the state each year; and in 1978 there has also been an increase. Nonetheless there also exist some questions. Primary among these is the long-term serious deficit in collective pig raising. According to county-wide statistics for the three years 1975, 1976, and 1977, the annual deficit was more than 3 million yuan. In 1977 there were 1080 pig raising yards throughout the county. Except for 21 yards, the vast majority (more than 98 percent) were in the red, totalling 3.84 million yuan. Annual income for the average peasant household in the county declined by 37 yuan, while per capita annual income declined by 8.8 yuan.

The rate of loss for feedgrain in collective pig-raising is also very large. According to statistics for the period from the end of June 1976 to the end of June 1977, feedgrain used in

collective pig-raising for the entire county amounted to 67.89 million jin, which is approximately equal to the grain consumed in one year by the 160,000 to 170,000 peasants. This figure represented 16 percent of the total grain output of the entire county during 1977 and approximately 86 percent of the commodity grain sold by the county to the state during 1977. According to the stipulation of the state, grain output in excess of the production target may be sold by the production brigade to the state at a 30 percent price increase. Owing to collective pig raising, however, the county sold 67.8 million jin less grain output in excess of the production target. Calculated at a rate of .03 yuan per jin lost income, there was a total reduction in income of more than 2 million yuan.

The fact that deficits in pig raising are this widespread, long-lasting, and serious indicates that the problem is not a work problem limited to a short time in a particular place, but rather that the situation is difficult to resolve owing to the existence of fundamental contradictions. Besides the comparatively low selling price for pigs, the three main problems as analyzed from the vantage point of the pig-raising yards are food, shelter, and management.

1. Food: fodder is limited to one kind and is insufficient in nutritional value.

In order to assure normal growth and development of pigs, there must be sufficient fodder, with the proper proportion among concentrated feed, green fodder, and coarse food grain. In actuality, however, a number of pig raising yards cannot manage this. With regard to concentrated feed, for example, in general there are only wheat, sorghum and corn, and even though these kinds are grown it is not possible to have them simultaneously, with the result that pigs are fed with whatever happens to be harvested. There are a number of production teams which, owing to the fact that grain was scarce and higher levels did not inquire about conditions, blindly requested permission to raise more pigs. The result was that they were not even able to supply a sufficient quantity of unitary fodder. Green fodder is extremely important for the growth and development of the pig. But in the past the majority of pig raising yards were only able to rely on a small quantity of leftover bits and pieces from the vegetable gardens of the production teams. And even this was available only on an off-and-on basis, so that the pigs could be fed with green fodder during two or three months. There are some production teams which did not even have enough coarse fodder. Each year when the new crop was still in the

blade and the old one had already been consumed, these teams could only feed the pigs with wheat straw having mildew and rot or even with sorghum straw, corn straw, and rice straw which had been blown by the wind are dried out by the sun over a long period of time. Under these circumstances, the pigs did not get enough to eat, nutrition was seriously lacking, and this in turn resulted in pigs which were thin and sickly, which had a slow rate of development and fattening, and which had a high death rate.

2. Shelter: many pigs, few shelters, resulting in an excessively high density.

Because there were more and more pigs raised in the pig yards while construction of pig pens was limited by capital, bricks, cement, land and so on, it was impossible to have a balanced increase. Consequently, a large contradiction was created. In Yangtuosan brigade, for example, there were 100 pigs in the pig yards three years ago; today there are more than 200 pigs, including 44 mature pigs, but there are still the same 32 run-down pig pens. In the winter of 1977, because the small pigs were cramped together, 52 pigs were crushed to death.

3. Management: in many units the leadership has not placed emphasis on this, a system of personal responsibility has not been established, personnel encharged with feeding the pigs have a weak sense of responsibility, and scientific pig raising has not been implemented.

It is true that for the past two years, in order to handle well collective pig raising, the county party committee has done a lot of work, some communes and brigades have strengthened their leadership, pig raising yards have instituted the system of personal responsibility, implemented scientific management, and managed things with a great improvement. However, viewed from the entire county, there are not many pig raising yards like this and some fundamental contradictions have today yet to be solved.

For example, in order to solve the problem of unitary fodder, the county set up a fodder company, which has the capability to process 30 million jin of blended fodder annually (including various communes). Nevertheless, because of various reasons such as an insufficiency of grains, it was in reality only able to produce more than 20 million jin, which was far from satisfying the demand. Moreover, the quality was not uniform. Take as another example the fact that a shortage of green fodder is an important cause of thin, weak, and sickly pigs. In order to

solve this problem, the county stipulated beginning in 1977 that the land given over to cultivation of green fodder by the communes and brigades should total approximately 24,700 hectares. This will fulfill a certain function if put into practice, if cultivated well, and if managed well. But as a result of this, 20 million jin less of grain was produced each year, so that the income of the production teams in the county declined by 2.5 or 2.6 million yuan.

An important measure of managing well pig raising yards is to establish the system of personal responsibility and to implement the system of quota control and material incentives. However, a number of pig raising yards currently have not begun to implement them or have implemented them in name only. In addition to the remaining poison of the "gang of four" which has not been eliminated, there are the following reasons for this: (1) Field labor for the production brigades has not yet implemented quota control (the objective difficulties are also somewhat more than for pig raising yards). If only the pig raising yards implement it and only the personnel responsible for feeding the pigs are able to get incentives, then other commune members will have their opinions and it will not come into being. (2) Because some pig raising yards do not possess the necessary material conditions, such as unitary fodder, a shortage of green fodder, an insufficient number of pig pens, and so on, the personnel responsible for feeding the pigs will be unwilling to assume the responsibility. Consequently, the system of personal responsibility cannot be established, and the personnel responsible for feeding the pigs will consider it the same whether they do a lot of work or a little, handle the work well or poorly. There are some persons who come quickly and leave quickly, not caring whether the pigs grow well or badly, whether or not the sow breeds when in heat; when the pig pens get dirty, there is no one to sweep them out; and sometimes it even reaches the point that no one knows when small pigs freeze to death.

Because there exist in the pig raising yards the aforementioned problems which are difficult to solve, the result is that many sows are barren, litter size is small, rate of mortality is high, weaning body weight is low, and the rate of fattening is slow. Finally, the pig raising yards use a lot of grain, suffer deficits, and have high costs.

There Is Still Great Potential for Pig Raising By Commune Members and Division of Responsibility for Pig Raising

According to a large number of investigations, in order for

a commune member to raise one fattened pig (weighing 130 or 140 jin), 7 or 8 months are required and approximately 300 of grain must be used; for every increase in weight of one jin, more than 2 jin to 3 jin of grain are required. And this is a comparatively advanced level in the world. To raise the same kind of fattened pig, an advanced pig raising yard uses more than 400 jin of grain. According to average calculations for 1977, pig raising yards in the county used 945 jin, which is about 1.5 to 3 times greater than the grain used by commune members in pig raising.

In 1955 Comrade Mao Zedong recommended to the entire nation the experience of Zhejiang Province Shanghua Cooperative in pig raising, mainly the method of collective households raising pigs and division of responsibility for raising of publicly owned pigs. (See "Socialist High Tide in the Chinese Countryside," pages 695-698.) Experience has proven that this is actually a method which is more, better, faster, and more economical. For example, there are six persons in the household of old military dependent Wang Guifu of Tong County Nanliusi Production Brigade. Relying on the children to provide the fodder, this household sold 22 fattened pigs to the state for the year. This indicates the great potential of pig raising by commune members. Division of responsibility for raising of publicly owned pigs is also a good method. Tong County at present has the following main methods: (1) Raising small pigs through the winter. For example, the Baoshou Production Brigade sent 100 baby pigs to be raised by individual households of commune members in the winter of 1976. When they were taken back the following spring, remuneration of .5 yuan and 2 jin of grain were paid per increase of 1 jin in gross weight. This year was very cold, and of the 50 baby pigs retained for raising in the yards of the brigade 45 froze to death, while each and every one of the 100 pigs sent down to individual households survived the winter. (2) Publicly-owned sows were distributed among individual households for raising. At the end of 1977 the Lingzhuang Production Brigade implemented this method. 500 jin of grain per sow per year was set aside along with 200 jin of coarse fodder; a fodder supplement of 1.5 yuan was paid for each living baby pig; and after the suckling pig was weaned, it was returned to the pig raising yard at a price of .6 yuan per jin. The result was that in August 1978 the 50 sows were all pregnant and 461 baby pigs survived, averaging over 20 jin at weaning. Compared with the pigs raised in the pig yards during 1977, although the time was less by more than 100 days and there were three fewer sows, there were 243 more pigs which

survived birth. (This was an increase of more than 100 percent.) These two methods solved the old, great problems of pig raising in the rural areas of the north of low winter temperatures, small litters in the pig raising yards, and a high mortality rate. They laid an excellent foundation for providing ample pigs to the pig raising yards and commune members, with the post-weaning weight of the pigs being comparatively heavy, and for further fattening of the pigs, economizing on fodder, and rapid growth. (3) When the pig raised by commune members has attained a weight of approximately 100 jin, it may be returned to the pig raising yard for fattening if the amount of grain is insufficient. After the large pig has been returned to the pig raising yard and rapidly fattened for about one month, it can be sold.

The primary reasons for a short period of fattening, economizing on fodder, and a higher rate of baby pigs attaining maturity under the system of commune members raising pigs and division of responsibility for raising of publicly owned pigs are: (1) many types of fodder have been developed and there is more green fodder. In pig raising by commune members reliance is placed mainly on household slops, leftovers, bran, corn husks, fresh hay cut by children, and greenfeed. Not only is the nutritional value comparatively complete, but a large amount of grain is saved; (2) the pig pens are not cramped and the density is small; and (3) when commune members raise a single pig, old and young alike in the family rack their brains and exert themselves with regard to fodder.

In developing pig raising by commune members, investment capital is decreased, results are perceived more rapidly, and the potential is great. For example, Taihu Commune was a backward unit in pig raising in the past, with 35 out of 36 pig raising yards in the red. In 1976 it was 160,000 yuan in the red, in 1977 it was 210,000 yuan in the red, and it only sold somewhat over 1200 fattened pigs to the state. In 1978 they summed up the lessons of their experience, conscientiously implemented the policy of material incentives in pig raising by commune members, completely supplied pigs and coarse fodder, and thereby mobilized the initiative of the masses. In 1978 the commune members turned over more than 7000 fattened pigs, an increase of more than 2000 as compared with 1977. The increased portion was two times greater than the amount collectively turned over during 1977!

Pig Raising Must Be Developed By Seeking Truth From Facts

Some comrades hold that since income goes to those involved in pig raising by commune members, this is small commodity production, this is fertile soil for capitalism, and it can weaken the collective economy and produce polarization. Some people revile the commune members who have increased their income by raising pigs behind their backs as "greedy" and as "capitalist heads." This point of view is in error theoretically and is not in accord with reality. In pig raising by commune members, fattened pigs are turned over to the state, fertilizers are turned over to the collective; this is the same as collective pig raising. That which is different is only that profits and losses in collective pig raising are the responsibility of the collective, whereas in pig raising by commune members the profits and losses are their own responsibility. Moreover, the current reality is: the great majority of pig raising yards are in the red, which means that the commune members themselves suffer a reduced income. However, where commune members raise the pigs, although the income is different in each case, nevertheless almost each person and each household can raise pigs and all who raise pigs have increased income. If some households, because there are more people or they work comparatively harder, or because they have comparatively more experience, turn over more pigs and earn a greater income, this is the result of labor. What is wrong with this? Do we desire that commune members get poorer and poorer so as to be considered "revolutionary" or "socialist"? Experience is the sole criterion for testing truth. Several years of experience by the Tuqiao Production Brigade has given a clear rebuttal to the aforementioned viewpoints.

Tuqiao Production Brigade is a comparatively small-scale production brigade. Each person has only 6 or 7 units of land. They have seriously put into effect the party's policy encouraging pig raising by commune members. From 1970, when the commune members turned over 85 fattened pigs, the number has increased to the point that in 1977 more than 360 pigs were turned over, averaging two pigs per household (in the same year, the pig raising yards only turned over 107 pigs, and moreover were heavily in the red). In the past there were a great many problem households among the commune members. Some were not content to be in the countryside and undertook opportunistic and speculative activities, adversely affecting collective labor. For the previous few years, the commune members owed the collective more than 19,000 yuan in cash and more than 30,000 jin of

grain, which they were unable to return for a long time. In recent years because there were more pigs which were fatter, collective grain output was promoted, and in addition each household of commune members was engaged in pig raising, they had both money and grain. Currently, excepting two "five guarantee households" which remain in arrears in both grain and cash, all households have wiped their slates clean. The problem households are no longer problems, those who previously were not content with agricultural production have now become content, and there are no longer any who engage in opportunism and speculation. With everyone participating positively in collective productive labor, collective production has become better and better. Facts prove that encouraging pig raising by commune members does not weaken the collective economy but rather consolidates the collective economy and is an important measure for closely linking the interests of the state, the collective, and the commune members.

From the long term, implementation of mechanization is the fundamental route for vigorously developing the tasks of pig raising. Nevertheless, it requires that the state and the collective invest a large quantity of capital and materials. At present our country's rural mechanization of pig raising yards is still very small, and can only develop gradually based on objective conditions.

Developing pig raising under the current conditions must place emphasis on and develop pig raising by commune members. Moreover, there must be a vigorous introduction and dissemination of the good experience of division of responsibility for raising of publicly owned pigs. In this way, it is possible to use a comparatively small amount of financial and material strength and within a short period of time to attain a comparatively great economic result. The production production brigades must resolute complete and vigorously strive to overfulfill the tasks in selling fattened pigs set by the state. Nevertheless, as to which method should be adopted, raising by the brigade, raising by the household, and raising according to division of responsibility are all acceptable. Production brigade cadres and the commune members themselves must decide which method should be primary, and which method should account for what percentage of the whole. The county and the commune must not set rigid stipulations. Any can be adopted for use so long as more fattened pigs can be raised, there is a saving in expenditures, and the income of the production brigade and the commune is increased. All limitations obstructing development of pig raising by commune members must be eliminated.

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BRIEFS

CHINA'S SERICULTURE--Beijing, 13 Jun--China now ranks first in the world in silkworm cocoon production and exports silk products worth hundreds of millions of U.S. dollars each year. The sericulture ranks Sichuan first and Zhejiang second among China's provinces. Sichuan produced 1,030,000 piculs of silkworm cocoons in 1978. However, China's sericultural technology is still backward as compared with advanced world levels. [Beijing XINHUA Domestic Service in Chinese 0311 GMT 13 Jun 79 OW]

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BRIEFS

ANHUI ARTIFICIAL RAIN--In 1978, the people in Anhui experienced one of the worst droughts for 100 years. Rainfall has continued to decline this year. The five large reservoirs in the province have 50 percent less water than usual. To improve this situation, a certain PLA unit recently sent aircraft to the province on a rain-making mission, with the approval of the State Council and central military commission. The aircraft made the first flight on 5 June. Results were good. [Hefei Anhui Provincial Service in Mandarin 1100 GMT 14 Jun 79 HK]

ANHUI FARMWORK MEETING--On the morning of 30 May, the Anhui Provincial CCP and revolutionary committees held a meeting of responsible persons of provincial-level organs and PLA units stationed in Hefei on organizing manpower to go to the countryside to help with summer harvesting and sowing. The meeting revealed that the 32 million mu of wheat planted last year is now ripening. The meeting decided to transfer 15,000 to 20,000 personnel from the provincial and municipal organs, PLA units stationed in Hefei and the universities, institutes, colleges and schools to help with crash harvesting and sowing. Fuyang and Suxian prefectures are the main wheat-producing areas in Anhui. These personnel will set out before 3 June. [Hefei Anhui Provincial Service in Mandarin 1100 GMT 30 May 79 HK]

ANHUI ORGANS SUPPORT WHEAT-HARVESTING--Various units of the provincial organs have responded to the call of the Anhui Provincial CCP Committee and organized some 2,000 office cadres to go to Fuyang, Mengcheng, Fengtai, Su, Huaiyuan, Guzhen, Jiashan, Dingyuan, Feidong and Feixi counties and 10 brigades on the outskirts of Hefei and Changfeng County to participate in wheat-harvesting there. Responsible comrades of the party committee of provincial organs, the Anhui agriculture, water conservancy, public health, machine-building and materials bureaus, the Anhui office for foreign affairs, the Hefei branch of the Chinese Academy of Sciences, the Anhui Federation of Trade Unions and the Anhui Provincial CYL Committee have all participated in labor. A large number of leading comrades of various departments, committee, offices and bureaus have also participated in labor on the outskirts of Hefei. Those who work in areas north of the Huai River and between the Huai and Yangzi River will work for about 10 days, and those who work on the outskirts of Hefei will work for 5 days until the harvesting is completed. [Hefei Anhui Provincial Service in Mandarin 1100 GMT 4 Jun 79 HK]

ANHUI WELL DIGGING--The Beijing Municipal CCP Committee transferred 58 drills and 1,000 personnel to Shou, Liuan, Huoqiu, Changfeng, Feidong, Dingyuan, Fengyang and Jiashan counties and Hefei, Bengbu and Huainan municipalities in Anhui from the well-drilling teams in Daxing, Fangshan, Tong, Dongcheng, Haidian, Shunyi, Pinggu and Zhaoyang countires in Beijing since December 1978 after learning of the Province's drought situation. The work teams from Beijing fulfilled their planned tasks ahead of schedule after working hard for 6 months and returned to Beijing in late April. These work teams sank 1,410 wells and built 57,100 meters of channels. The daily water output of some of these wells is 200 cubic meters. The Beijing work teams also provided some geological and hydrological information on some areas in Anhui besides helping sink wells. [Hefei Anhui Provincial Service in Mandarin 1100 GMT 7 Jun 79 HK]

ANHUI COUNTY PROMOTES WHEAT PRODUCTION--Jiashan County this year reaped a bumper harvest of its 500,000 mou of wheat which were rush-planted during last year's struggle to combat drought. By 10 June, the county has reaped 440,000 mou of wheat. Judging from the situation of threshing, it is expected that the county's total wheat output will increase by 30 percent as compared with last year and will top the highest output level in history. [Hefei Anhui Provincial Service in Mandarin 1100 GMT 15 Jun 79 HK]

ANHUI PREFECTURE RAPESEED--By 8 June, the people in Fuyang Prefecture had sold 12.87 million catties of rapeseeds to the state, overfulfilling the task of selling rapeseeds by 28.7 percent. [Hefei Anhui Provincial Service in Mandarin 1100 GMT 12 Jun 79 HK]

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BRIEFS

FUJIAN COUNTY HYBRID RICE--The peasants in Minquing County have planted 120,000 mou of hybrid late rice, an increase of 100 percent over 1978. The average per mou yield of hybrid late rice in 1978 was 704 catties, doubling that of the conventional varieties. The 120,000 mou of hybrid late rice accounts for 71 percent of the total areas sown to late rice. [Fuzhou Fujian Provincial Service in Mandarin 0300 GMT 12 Jun 79 HK]

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BRIEFS

HAINAN TROPICAL CROPS MEETINGS--The Hainan tropical crops bureau recently held a work conference on tropical crop cultivation in Qionghai County. Participants inspected arms of tropical crops and high-yielding coconut and rubber plantations of communes and brigades in Qiongshan, Wenchang and Qionghai counties. According to statistics, Hainan Region planted over 181,000 mu of tropical crops in 1978. The region's total areas of tropical crops in 1978 was over 1,233,000 mu which is 7.3 percent increase as compared with 1977. The region's total value of output of tropical crops in 1978 increased by 33 percent as compared with 1977. The region's rubber output in 1978 increased by 48 percent, coconut output increased by 24 percent and tea output increased by 200 percent. The current problems in tropical crop cultivation are: Some comrades have failed to fully emancipate their minds and have not dared to justly and forcefully grasp the diversified economy. The policy on distribution has not been implemented and the professional labor forces have been unstable. Some communes and brigades have done a poor job of planting and managing tropical crops and quite a few rubber and coconut plantations are lying fallow. The conference noted: To promote tropical crop cultivation, we must continue to strengthen leadership and eradicate the pernicious influence of the ultraleftist line, do well in perfecting the production responsibility system, implement the principle of to each according to his work, take measures that suit local conditions, strengthen ideological and political work, stabilize the professional contingents for managing rubber and coconut plantations, strengthen scientific management and do well in the production, supply and marketing of tropical crops. [Haikou Hainan Island Service in Mandarin 0430 GMT 7 Jun 79 HK]

HAINAN WATER CONSERVANCY MEETING--The Hainan water conservancy and electric power bureau recently held a meeting of the water conservancy and electric power bureau directors and responsible persons of the water conservancy capital construction projects in the Han areas to check on and sum up the situation of water conservancy projects completed at an earlier period and make plans for those currently under construction. The conference demanded that water conservancy departments at all levels strive to fulfill this year's water conservancy projects, do a good job of preventing floods and lay the conditions for reaping a bumper harvest of late rice. The conference revealed that by the end of May, 154 water conservancy projects out of 488

had basically been completed, thus increasing, improving and restoring 40,000 mu of irrigated land. However, progress of quite a number of projects has been slow, while construction of others has still not begun. The conference also revealed that there will be more rainfall this year. [Haikou Hainan Island Service in Mandarin 0430 GMT 8 Jun 79 HK]

HAINAN RURAL WORK CONFERENCE--On 30 May, the Hainan regional CCP Committee held a telephone conference which demanded that the party organizations at all levels throughout the region seriously do a good job of summer farmwork, fulfill the procurement tasks for grain and edible oil in good time and rapidly whip up an upsurge in farming preparation for mid-season and late rice. The participants held that the situation of agricultural production throughout the region is generally good. The people in this region have reaped 42 percent of the early rice. In Wanning County, harvesting has been basically completed. In Lingshui, Ledong, Ya and Qionghai countries, the areas sown to sugarcane are 16,000 mu more than last year. The areas sown to the various tropical crops are also larger. The current problem is that the sowing plans of early rice throughout the region have not been fulfilled with 300,000 mu less than the highest level ever recorded. The lack of repairs on the irrigation channels is also serious, causing less irrigated areas and insufficient manure. The conference said that it is necessary to firmly grasp the opportune moment after the rain to crash plant summer sweet potatoes and dry land crops. [Haikou Hainan Island Service in Mandarin 0430 GMT 1 Jun 79 HK]

GUANGDONG COUNTY'S PIG-BREEDING--The number of pigs raised in Xingning County from January to April was some 50,200 more than in the corresponding period of last year, an 18.5 percent increase. The number of pigs in pigsties was some 42,700 more than in a similar period of last year, a 16 percent increase. The number of pigs sold to markets was 7,255 more than in the corresponding period of last year, a 10 percent increase. On the average each pig was 17 catties heavier than it was last year. [Guangzhou Guangdong Provincial Service in Mandarin 1130 GMT 17 Jun 79 HK]

GUANGDONG PREFECTURE AGRICULTURE--Shantou Prefecture is the first prefecture in China to have reaped an average per mou yield of 1,000 catties of grain. The total output of grain in 1977 reached 5,210 million catties, an increase of 400 million catties over 1976, reaching the highest level ever recorded before. The quantity reached 5,360 million catties in 1978, an increase of 150 million catties over 1977. Compared with 1977, output of sugarcane in 1978 increased by 13 percent, jute increased by 10 percent, Chaozhou tangerines increased by 18.6 percent and alfalfa increased by 400 percent. The total value of foreign trade export reached 430 million yuan, an increase of 68 percent over 1976. [Guangzhou Guangdong Provincial Service in Mandarin 0000 GMT 8 Jun 79 HK]

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BRIEFS

GUANGXI PREFECTURE AGRICULTURAL CONFERENCE--The Hechi Prefectural CCP Committee recently held a work conference to seriously study the issue of readjusting the local economy and has formulated plans and measures for speeding up the development of agriculture in accordance with the actual situation in the prefecture. After analyzing the current situation, participants to the conference held that progress of agriculture in the prefecture is slow. They pointed out that they have neglected to proceed from reality in the mountainous areas to organize production and study the characteristics of natural resources. The conference revealed that the extent of agricultural mechanization in the prefecture is low and the effects of farmland capital construction are not great. There are more barren mountainous areas than farmland in this prefecture. Recently, the prefectural CCP Committee has transferred 184 cadres to help basic-level units strengthen management. [Nanning Guangxi Regional Service in Mandarin 1130 GMT 9 Jun 79 HK]

QUANGXI FARMING CIRCULAR--The Guangxi Regional Revolutionary Committee issued a circular on 6 June demanding the various areas further firmly grasp field management of early rice during its later growing stage. The circular revealed that seedling growth in quite a few places has been poor due to more rainy and less sunny days and low temperatures this year. It is necessary to provide guidance in separate categories instead of general guidance, organize three-in-one combination groups of cadres, agricultural technicians and veteran peasants to check on the seedlings and apply more manure to the grade two seedlings and phospho-potash fertilizer and quick acting farm manure to the grade three seedlings which have poorer growth. It is also necessary to make overall arrangement in the field management of industrial crops including sugarcane, peanuts and jute, do well in eliminating insect pests, put the plant protection network on a sound basis and pay attention to preventing waterlogging. [Nanning Guangxi Regional Service in Mandarin 1130 GMT 7 Jun 79 HK]

GUANGXI LATE RICE CIRCULAR--The Guangxi Regional Revolutionary Committee issued an urgent circular which demanded that the various areas firmly grasp sowing and cultivating late rice. In Guanyang County, 78 percent of the late rice has been sown. However, the progress of sowing in the whole region is still far from meeting the demands of the season. Some areas have even sown less than last year. These areas must adopt effective measures to speed up the progress of sowing. To avoid "cold dew" wind [8 October], it is necessary to cultivate old strong seedlings. At present "grain in the ear" [6 June] is drawing near and this is the key time for sowing late rice. After reaping the early-maturing varieties of early rice and sowing grain again, we can still avoid the "cold dew" wind. [Nanning Guangxi Regional Service in Mandarin 1130 GMT 28 May 79 HK]

GUANGXI PREFECTURE LATE RICE--According to statistics on 30 May, the people in Guilin Prefecture have sown 5 million catties of late rice seeds. Quanzhou, Quanyang and Ziyuan Counties have completed sowing of late rice. The autumn cold spell arrived in this prefecture earlier than usual. The "cold dew" wind usually appears in early October. Due to prolonged low temperatures and rainy days in April and May this year, transplanting of early rice was postponed from 5 to 10 days, thus postponing the ripening period of early rice. Therefore, the people in this prefecture sowed and cultivated late rice earlier, so as to avoid the "cold dew" wind. [Nanning Guangxi Regional Service in Mandarin 1130 GMT 8 Jun 79 HK]

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BRIEFS

GUIZHOU PREFECTURE DROUGHT--The party organizations at all levels in Biji Prefecture have mobilized and organized 782,300 persons into drought resisting forces and 192,300 pieces of machinery to plunge into the struggle of resisting drought, speeding up progress of crash reaping and sowing. By the end of May, the people in this prefecture had planted 3,530,000 mou of maize, 2,170,000 mou of miscellaneous grain, transplanted 122,700 mou of seedlings and reaped 1.7 million mou of summer crops including wheat, rape and miscellaneous grain. The prefecture has not received any heavy rain this year. [Guiyang Guizhou Provincial Service in Mandarin 2315 GMT 6 Jun 79 HK]

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BRIEFS

HENAN WHEAT CULTIVATION MEETING--In accordance with the instructions of the provincial party committee, the office of the provincial agriculture and forestry group recently held an on-the-spot meeting to appraise and examine the results of wheat cultivation. Through visits and reports, experiences in promoting better wheat crops were exchanged and summed up and measures were studied and formulated. The meeting held: Currently, wheat growing in Henan Province is fairly good, although it was hit by various natural calamities. As a result of strenuous efforts a fairly good harvest has been won. The meeting demanded: before and shortly after the harvest, on-the-spot meetings to appraise and examine the results of wheat cultivation should be held throughout the province. A campaign to commend units should also be launched in various localities. The meeting stressed: The final-stage field management work for the crop must not be neglected. Only by carrying out these measures can a bumper harvest be ensured next year. [Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 22 May 79 HK]

HENAN SUMMER FARMING CIRCULAR--Zhengzhou, 31 May--The Henan Provincial Party and revolutionary committees recently issued a circular call upon all party committees to focus their attention on summer harvesting and planting. The circular urges all localities to make proper arrangements for the labor force, draft animals and farm machinery and implements and make necessary preparations for harvesting and planting. All trades and professions are called on to render necessary assistance and support. In view of the low temperatures and rains during the spring which have retarded crop ripening by about 7 days, the circular urges all localities to reap crops immediately upon ripening, without delay. All party committees are advised not to hold unnecessary meetings during the busy farming season. [Beijing XINHUA Domestic Service in Chinese 1448 GMT 31 May 79 OW]

HENAN GREEN MANURE--The short commentary by a commentator of the Henan broadcasting station: "A cause with plenty of room for development" deals with the importance of vigorously growing green manure. The commentary enumerates the advantages of growing manure. Production of grain sown in fields where green manure has grown will increase. The commentary calls on the whole province to vigorously grow green manure. [Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 11 Jun 79 HK]

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BRIEFS

HUBEI PREFECTURE'S GRAIN OUTPUT--Wuhan, 20 June--Xiangyang Prefecture, Hubei, has reported a 10 percent increase in the output of this prefecture's 5.5 million mou summer grain crops. This year, Guanghua and Xiangyang counties expanded their summer grain acreage by 120,000 mou. [Beijing Xinhua Domestic Service in Chinese 0220 GMT 20 Jun 79 OW]

HUBEI RAINFALL--According to reports of the Wuhan Central Meteorological Observatory, heavy rain and rainstorms fell over Hubei from 3 to 5 May. Between 100 and 200 mm of rainfall were recorded in the central southern parts of Xianning, Jingzhou, and Yichang prefectures, while the northern parts of Yunyang, Xiangyang, Huanggan and Enshi prefectures and the western part of Yichang Prefecture received 30 to 50 mm. In other prefectures, the rainfall was between 50 and 100 mm. The rainfall is very favorable for transplanting mid-season rice seedlings and the growth of various other crops. [Wuhan Hubei Provincial Service in Mandarin 1100 GMT 5 Jun 79 HK]

WUHAN RUSTICATED YOUTHS--More than 10, 0 rusticated intellectual youths in Wuhan, who came back not long ago to w k or study in the city, have recently returned to the countryside. To expedite the rerustication of these youths, many units concerned have made proper arrangements for their livelihood and production duties in the countryside and have done thorough and careful ideological and political work for both the youths and their parents. These youths were rerusticated after leaving their various fronts in Wuhan such as Wuhan Iron and Steel Company, the municipal grain system, the municipal metallurgical, petrochemical and electronic bureaus, the provincial capital construction commission, the provincial finance and trade and the provincial agricultural and forestry fronts. [Wuhan Hubei Provincial Service in Mandarin 1100 GMT 31 May 79 HK]

ARTIFICIAL RAINMAKING--Since the beginning of this year, Hubei has scored marked results in artificial rainmaking. The meteorological personnel, scientific researchers, and the PLA Air Force and militia stationed in Hubei used antiaircraft guns, small rockets and airplanes to carry out rainmaking activities. According to incomplete statistics, since the beginning of this year, some 1 million mu of farmland in Zhongxiang, Jingmen, Nanzhang, Yicheng, Xingshan, Zigui, Dangyang, Yichang, Zhijiang, Yuanan and Daye counties have benefited from this rainmaking. [Wuhan Hubei Provincial Service in Mandarin 1100 GMT 24 Jun 79 HK]

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BRIEFS

JUTE PRODUCTION--This year, Hunan has expanded the growing area of jute and ambary hemp. Some 179,000 mu of jute and ambary hemp have been sown throughout the province, an increase of 53,000 mu over last year. [Changsha Hunan Provincial Service in Mandarin 1100 GMT 15 Jun 79 HK]

VEGETABLE OIL--By the first half of June, over 290,000 dan of vegetable oil has been put into storage and has exceeded this year's purchasing plans by 7 percent. The Yiyang, Changde and Xiangtan prefectures and Shaoshan District have overfulfilled the tasks assigned by the province by some 30 percent. Twenty counties in the province have fulfilled and overfulfilled the tasks. [Changsha Hunan Provincial Service in Mandarin 1100 GMT 15 Jun 79 HK]

HUNAN RAPE PRODUCTION--Hunan has reaped a great bumper rape harvest. According to preliminary statistics, Hunan has reaped about 5.65 million mu of rape, and the total yield this year has again increased by over 40 percent on the basis of a 100-percent increase in 1978. The great bumper rape harvest in Hunan this year has contributed some 200 million yuan to the collective economy and has provided 3 million piculs of organic fertilizer of superior quality for developing grain production. [Changsha Hunan Provincial Service in Mandarin 2315 GMT 3 Jun 79 HK]

HUNAN COTTON--By the end of this year, 2.[illegible] million mu of cotton has been sown throughout Hunan. At present, the [illegible] main cotton-producing counties of Li, Anxiang, Shimen, Cili, Linli, Nan, Yuanjiang, Yiyang, Huarong, Linxiang, Leiyang, Hanshou and Changde have fulfilled and overfulfilled the cotton sowing task with better quality than last year. [Changsha Hunan Provincial Service in Mandarin 2315 GMT 29 May 79 HK]

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BRIEFS

AGRICULTURAL SCHOOLS--Nanjing, 26 Jun--To train more agricultural technical personnel to meet the urgent needs of agricultural modernization, Jiangsu Province has recently reopened Suzhou Agricultural School, Xuzhou Agricultural School, Huaiyin Agricultural School, Yancheng Agricultural School, Nantong Agricultural School and Taizhou Animal Husbandry and Veterinarian School. These schools, closed for more than 10 years, had trained nearly 20,000 agricultural technical personnel for the state before the cultural revolution. Directors of agricultural departments of several counties in Jiangsu are graduates of these schools. New students will be enrolled this summer through the province's unified entrance examination on secondary technical schools. Graduates of these schools will be assigned jobs by the state. [Beijing XINHUA Domestic Service in Chinese 0225 GMT 26 Jun 79 OW]

FORESTS DESTROYED--Nanjing, 22 Jun--Some leading cadres of the Rudong County CCP Committee have instigated local people to fell large areas of protective forests on the county's sea walls. In the 13 days beginning with 13 March this year, the party committee of the Datong commune in the county organized 60 men and destroyed 146 mu of protective forest on sea walls, felling 8,152 trees. The Jianzhen district in the county felled more than 8,000 trees in February and March this year. The protective forests in Rudong County cover an area of more than 27,000 mu. They were planted with state investment and took more than 10 years to complete after the first tree was planted in 1960. The destruction of the forests began in 1973. Of the 15,000 mu of state-owned sea wall land, over 3,790 mu have been occupied or encroached upon. In October last year, the county decided to put more than 10,000 mu of state-owned protective forests under the management of 14 communes. The situation is currently being investigated jointly by the Jiangsu Provincial CCP Committee and Nantong Prefecture. [Beijing XINHUA Domestic Service in Chinese 0339 GMT 22 Jun 79 OW]

JIANGSU COUNTY SUMMER HARVEST--Xinghua County, Jiangsu, has reaped a good summer harvest of wheat, barley and naked barley this year, registering a total summer grain output of 530 million catties and a per-mou output of nearly 600 catties. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 19 Jun 79 OW]

JIANGSU COTTON PRODUCTION--At the Jiangsu provincial cotton production conference held in Rudong County on 6 June, the provincial revolutionary committee presented banners to Rudong, Dongtai, Taicang, Tongshan, Guanyun, Tantu and Jiangdu counties which distinguished themselves in mobilizing the broad masses of women last year to participate in the "8 March" cotton production groups activities. Jiangsu's cotton-growing districts organized more than 145,000 "8 March" cotton production groups last year; they cultivated over 2.47 million mu of cotton, or 29 percent of the total cotton acreage in the province. [Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 6 June 79 OW]

JIANGSU RURAL ACCOUNTANTS--Nanjing, 25 Jun (XINHUA)--Jiangsu Province has trained 340,000 accountants for rural areas this year. The training courses are aimed at helping accountants improve their accounting skills and their understanding of the party's rural policies. Each course lasted between two weeks and one month. Production team accountants were trained by communes, brigade accountants by counties and commune accountant instructors by prefectures. Jiangsu Province has restored the party's rural economic policies in the past two years. Now most production teams have set up groups for democratic financial management and established financial regulations and rules. [Excerpts] [Beijing XINHUA in English 0304 GMT 25 Jun 79 OW]

JIANGSU COUNTY SUMMER GRAIN--Wujiang County, Jiangsu, reports a total summer grain output of 150 million catties this year, more than 20 million catties over that in the last year. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 19 Jun 79 OW]

JIANGSU COUNTY AGRICULTURAL PRODUCTION--Wu County, Jiangsu, has reaped a bumper harvest of summer crops on its 600,000 mou of wheat, barley and naked barley fields. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 17 Jun 79 OW]

JIANGSU PREFECTURE AGRICULTURAL PRODUCTION--Zhenjiang Prefecture, Jiangsu, has reaped a bumper harvest of summer crops from its 4 million mou of wheat, barley and naked barley fields. The prefecture's 2.5 million mou of ricefields are also in a good condition. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 17 Jun 79 OW]

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BRIEFS

TEA PRODUCTION--The total output of spring tea in Jiangxi this year is 107,000 piculs, an increase of 15 percent over last year. The tea-growing areas have also trained a large number of technicians, improving the quality of tea this year. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 20 Jun 79 HK]

CSO: 4007

JILIN COMMENTATOR ON IMPORTANCE OF AGRICULTURE

Changchun Jilin Provincial Service in Mandarin 2200 GMT 23 Jun 79 SK

[Report on JILIN RIBAO 24 June contributing commentator's article: "The Most Important Task in Readjusting the National Economy Is To Push Agriculture Forward"]

[Text] The article states: Agriculture is the foundation of the national economy. Therefore, readjustment of the national economy consists first of accelerating the development of agriculture. Food is the first necessity of the people and the question of grain is great. We should not only have enough grain to meet the needs of our province, but also supply more marketable grain so as to make more contributions to the state.

The Songliao Plain in the central area of our province has plenty of fertile farmland and is noted for yielding grain and soybeans. In this area, it is necessary to build up marketable grain bases stage by stage and area by area so as to further increase the output of grain and soybeans and raise the marketable rate of grain. In these marketable grain base counties, it is necessary on the one hand to support the various fields of loans, farm machines, fertilizers, agricultural chemicals, irrigation projects and science and technology. At the same time, every county should fully mobilize the masses, carry forward the spirit of self-reliance, struggle hard and persist in exerting all-out efforts so as to insure that the marketable grain bases can be built up quickly.

Western Jilin, although visited by sandstorms and dry spells and suffers from poor soil, has plenty of farmland, which is a favorable condition developing marketable grain.

In the eastern mountainous and partly mountainous areas, the average farmland per capita is relatively small. However, there are favorable water conservancy conditions which contribute greatly to rice production. Fortunately rice is a high-yield crop. Some places still have wasteland to be reclaimed. It is very possible to increase grain output by expanding farmland.

On the whole, whether in the central, eastern or western areas, the potential for grain production is great. We have a bright future. In line with the different conditions, we should go all out to push grain output forward.

While developing grain production, efforts should be made to push forward forestry, animal husbandry, side-line production, fishery and cash crops. It is necessary to gradually change the component sectors of the current agriculture in our province. This means changing the situation of paying one-sided attention to grain crops and no attention to cash crops, as well as one-sided attention to agriculture and no attention to forestry, animal husbandry, side-line production and fishery. Accurate and complete jobs should be done to implement the principles of combining farm ing, forestry, animal husbandry, side-occupations and fishery; taking food grain as the key link and ensuring all-round development; and adaptation to local conditions and appropriate concentration of certain crops in certain areas. In line with reality and according to local conditions, efforts should be made to dig out all resources, which should be fully utilized to push agriculture forward and accelerate the tempo of agricultural development.

The article states: In realizing socialist modernization in agriculture, it is impossible to depend on efforts in agriculture alone. It is also necessary to have all-out support from industry. During the period of readjusting the national economy, it is necessary to improve industries which serve agriculture in readjusting industry. As for the tractors owned by our province, efforts should be made to increase their number and solve problems of accessories and parts. On the basis of fine quality, the number of industries which serve agriculture should remain adequate. Active efforts should be made to improve the existing medium and small chemical fertilizer plants and to increase their output. Industries which produce herbicides, plastic sheeting, agricultural chemicals and forestry chemicals should be fully developed. These three aspects can be regarded as the basic demands of agriculture on industry. These are the basic things for industry in supporting agriculture. Industrial departments should work actively to do everything possible to solve these problems.

Departments of finance, banking, commerce, supply and marketing and trade should take the development of support for agriculture as a most important part of their work. They should consider, study and make arrangements for their own work in line with the favorable conditions for developing agriculture.

All trades and industries should support agriculture. The work of planning departments is very important. These departments should realistically implement the principle of taking agriculture as the basic task and successfully strike an over-all balance according to the order of agriculture, light industry and heavy industry. Only in this way will it be possible to gradually divert the national economy onto a course of sustained, proportionate and rapid development.

CSO: 4007

AGRICULTURAL CADRES SENT TO GRASSROOTS LEVEL

Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 27 Jun 79 SK

[Text] The Agricultural Commission of this autonomous region has recently organized large numbers of agricultural and animal husbandry cadres to help in the work at the grassroots level so as to win great success in agricultural and livestock production.

A recent enlarged meeting of the standing committee of the regional CCP committee called on party organizations at all levels in the region to take effective measures and make all-out efforts to make a success of this year's agricultural and livestock production. In response to this call, all bureaus under the regional Agricultural Commission immediately selected cadres to be dispatched to the grassroots level. Then, at a four-level cadre meeting held by the Agricultural Commission, leading comrades of the commission's party group gave mobilization speeches, requesting that the cadres going down to the grassroots level take the development of agricultural and livestock production as the central task and, in light of the specific work of their own units, try to understand the situation, help in the work and solve the problems at the grassroots level. They were also urged to mobilize the masses to make every effort to achieve great success in this year's agricultural and livestock production.

A total of more than 360 cadres were selected from various units under the Agricultural Commission for work at the grassroots level. Among them, 18 are bureau-level cadres and 53 [words indistinct] cadres. They were organized into more than 50 work groups and dispatched to various rural and pastoral areas and various state-run agricultural and livestock farms.

CSO: 4007

BRIEFS

NEI MONGGOL LIVESTOCK INCREASES--Hohhot, 19 June--According to incomplete statistics compiled in late May, among a total of 5,387,000 young animals given birth this year in Nei Monggol, 4,930,000 have survived, showing a survival rate of 91.5 percent, or 1,260,000 head more than that of the same period last year. [Beijing Xinhua Domestic Service in Chinese 0215 GMT 19 June 79 OW]

GRASSLAND PLANTED--At present, the leadership concerned and more than 100 cadres who are in charge of grassland work of Ulanqab league have gone deep into the forefront of the work to strive to fulfill the task of planting grass in 1979 on the 520,000 mou grassland, which surpasses that of 1978 by 300,000 mou. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 5 Jun 79 SK]

CSO: 4007

BRIEFS

SHANDONG CADRES IN PRODUCTION--Taian Prefecture has transferred a total of more than 1,200 office cadres and technical personnel to the forefront of the rural "three summers" production operation so as to help the communes and brigades solve the practical questions emerged in the operation. In coping with the question of reducing autumn crop output while increasing wheat output, which has prevailed in various counties in recent years, cadres who have gone deep into the rural "three summers" production operation sincerely sum up experience and popularize model experience so as to insure that the work on autumn crops can be grasped early and successfully. They make all-out efforts to wrest a bumper autumn crop harvest this year and change the situation of reducing autumn crop output while increasing wheat output. [Jinan Shandong Provincial Service in Mandarin 2300 GMT 7 Jun 79 SK]

CSO: 4007

BRIEFS

SICHUAN COUNTY AGRICULTURAL PRODUCTION--Shengdu, 21 June--Wenjian County of Sichuan Province has reaped a bumper harvest of wheat and rapeseeds from its 85,000 mou of wheat and 48,000 mou of rapeseeds this spring. The per-mou wheat output increased from 560 catties in 1978 to 580 catties this year, and that of rapeseeds increased from 270 catties to 300 catties. The total income from wheat and rapeseeds increased by 2.7 million yuan over that of last year with the per capita income from wheat and rapeseeds increasing by 13 yuan. [Beijing Xinhua Domestic Service in Chinese 0125 GMT 21 Jun 79 OW]

CSO: 4007

BRIEFS

XINJIANG COUNTY FARM PRODUCTION--Some 100,000 people in each county are working in the fields to harvest the county's 500,000 mou wheat crops and plant an additional 210,000 mou corn crops before the end of June. They also carry out field management of 200,000 mou of cotton and 300,000 early corn crops. (Urumqi Xinjiang Regional Service in Mandarin 1300 GMT 20 Jun 79 OW]

XINJIANG LIVESTOCK PRODUCTION--The masses in Mori Kazak Autonomous County, Xinjiang, have sunk 178 pump wells including 130 in pastoral areas for the irrigation of grassland. As of the end of May this year, they have sunk 26 additional pump wells. Spring fodders are sufficient for feeding 200,000 head of livestock. [Urumqi Xinjiang Regional Service in Mandarin 1300 GMT 21 Jun 79 OW]

CSO: 4007

MEETING CALLED FOR GREATER EFFORTS IN AGRICULTURE

Kunming Yunnan Provincial Service in Mandarin 2315 GMT 28 Jun 79 HK

[Summary] The Yunnan Provincial CCP and Revolutionary Committees held a telephone conference on 28 June, which demanded that the cadres and peasants throughout the province go all-out to reap a bumper harvest of the spring-sown crops and strive to fulfill this year's agricultural production plans.

Comrade Xue Tao, deputy secretary of the provincial CCP committee, spoke at the conference. He stressed that the rural areas must currently grasp the following measures: 1) Step up field management of the crops and strive to increase the yield per mu; 2) While striving to fulfill the target for sowing spring-sown crops, do a good job of sowing the late rice and late autumn crops; 3) Base all work on fighting natural disasters to reap a bumper harvest; 4) Departments concerned must do well in producing and supplying chemical fertilizer, farm drugs and machinery.

Xue Tao said: The province must continue to do well in implementing the spirit of the third plenum and the Central Committee's two documents on developing agriculture. "Although we have started to gain very good results from implementing the spirit of the third plenum and the two documents on developing agriculture, together with the provincial CCP committee's supplementary regulations, generally speaking we have only just made a start in implementing them. We have not implemented them in a deepgoing and all-round way. To do well in implementing the party's rural economic policies, we must repeatedly criticize and eliminate the pernicious influence of the ultraleftist line of Lin Biao and the "gang of four." We must step up education for the cadres, correctly sum up and absorb the lessons and experiences of history, enhance spontaneity to implement policies, boldly uphold the truth, and dare to solve in a truth-seeking way the problems on our advance."

Xue Tao said: "The party committees and cadres at all levels must firmly believe that the great majority of the rural cadres, poor and lower-middle peasants and peasant masses, who have followed the road of collectivization for more than 20 years, want to uphold the socialist orientation and road and want to make a success of the collective economy. We must believe that the great majority of the cadres and masses are capable of acting in accordance with party policies. We must trust and rely on the masses and resolutely implement the principles and policies laid down by the

central authorities and the relevant regulations of the provincial CCP committee. The provincial CCP committee demands that the province currently get a good grasp of the following three tasks:

"1. Carry out an all-round inspection of the state of implementation of the rural policies. Leading comrades at all levels must go to stay at selected basic units, sum up and exchange experiences, and implement the party policies in an all-round way. At present, we must concentrate on setting up and putting on a sound basis the production responsibility system and on implementing the policy on distribution according to labor, especially on ration distribution, and the relevant policies concerning the small freedoms of the peasants.

"2. Do well in running courses to train all the basic level cadres by rotation.

"3. Prefectural and county CCP committees must send work teams to communes and brigades to publicize the party's principles and policies and help to implement them."

Zhang Yun, member of the standing committee of the provincial CCP committee and vice chairman of the provincial revolutionary committee, spoke at the conference on organizing full-time farmland capital construction forces, doing a good job of summer farmland capital construction work, and grasping precautions against floods.

CSO: 4007

BRIEFS

ZHEJIANG SOIL SURVEY--A soil survey in Fuyang County, Zhejiang Province, a pilot project in the second national general soil survey, has been basically completed. The overall survey of Fuyang's 340,000 mu of arable land and 2 million mu of hilly land provides scientific data for the county's development of natural agricultural resources and planned and guided agricultural production. [Hangzhou Zhejiang Provincial Service in Mandarin 1100 GMT 15 Jun 79 OW]

ZHEJIANG COUNTY GRAIN OUTPUT--Shaoxing County of Zhejiang Province has reaped a bumper harvest of spring grain and rapeseeds. The total output of spring grain this year reached over 100 million catties, a 34 percent increase over that of last year and the per-mou yield reached over 430 catties, increasing by 100 catties over that of last year. The total output of rapeseeds reached over 8 million catties, an 18.7 percent increase over that of last year and the per-mou yield reached over 190 catties, increasing by 20 percent over that of last year. Both the total output and per-mou yield of spring grain and rapeseeds registered all-time high in this county this year. [Hangzhou Zhejiang Provincial Service in Mandarin 1100 GMT 18 Jun 79 OW]

CSO: 4007

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